Molecular Foundry Messaging

Branden Brough, Deputy Director

September 16, 2019

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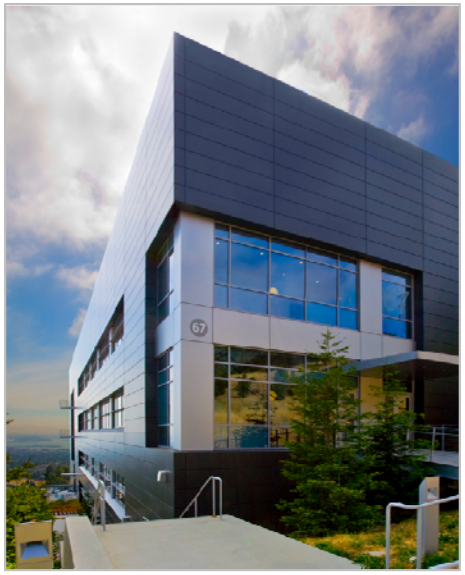
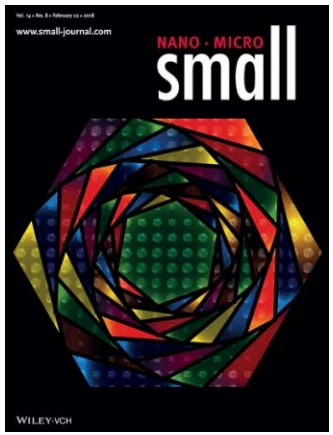
MOLECULAR FOUNDRY

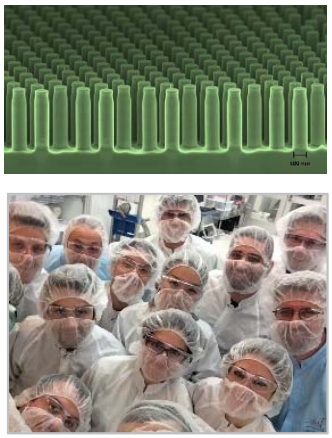


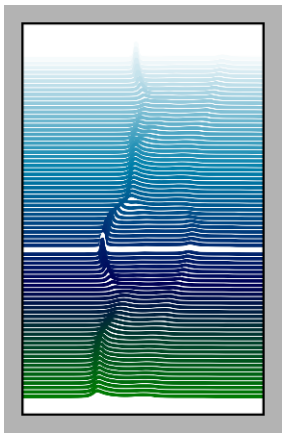
MOLECULAR FOUNDRY

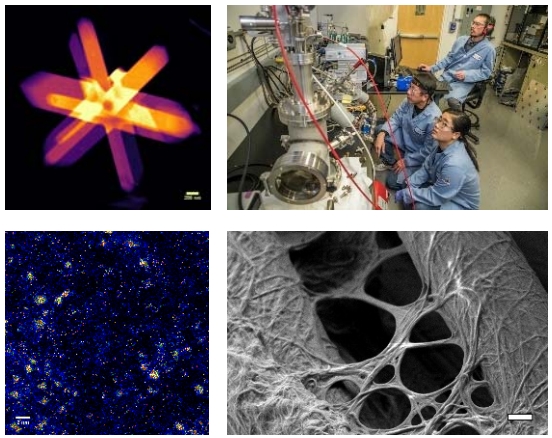
One of five Nanoscale Science Research Centers (NSRCs) funded by the U.S. Department of Energy

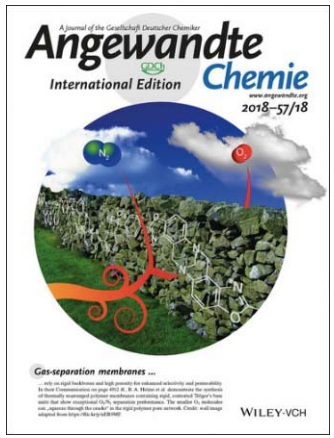
- **Knowledge-based user facility** that provides state-of-the-art expertise, methods, and instrumentation in nanoscale science in a safe environment free of charge
- **Multidisciplinary research center** at the forefront of nanoscale science





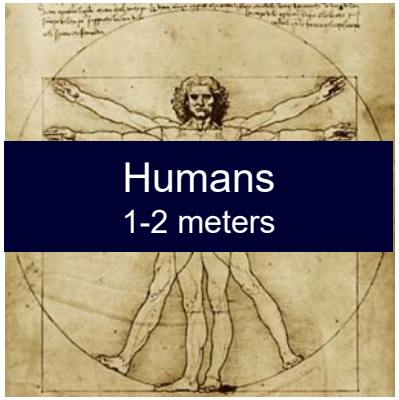






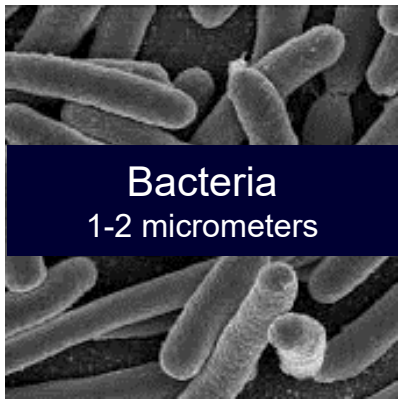
Nanoscale Science

or The Science of the Extremely Small



1000x

1000x



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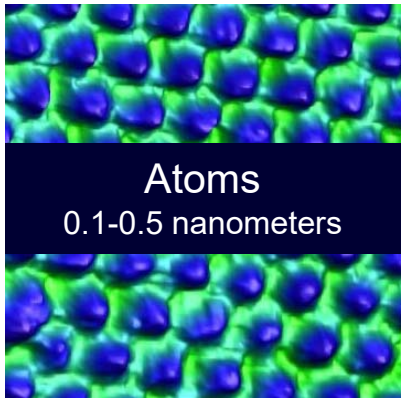

1 meter =
1,000,000,000 nanometers

1 m

1 millimeter =
1,000,000 nanometers

1 mm

1 micrometer =
1,000 nanometers

1 µm

1 nanometer =
10^{-9} meters

1 nm

Nanoscale
<100 nm

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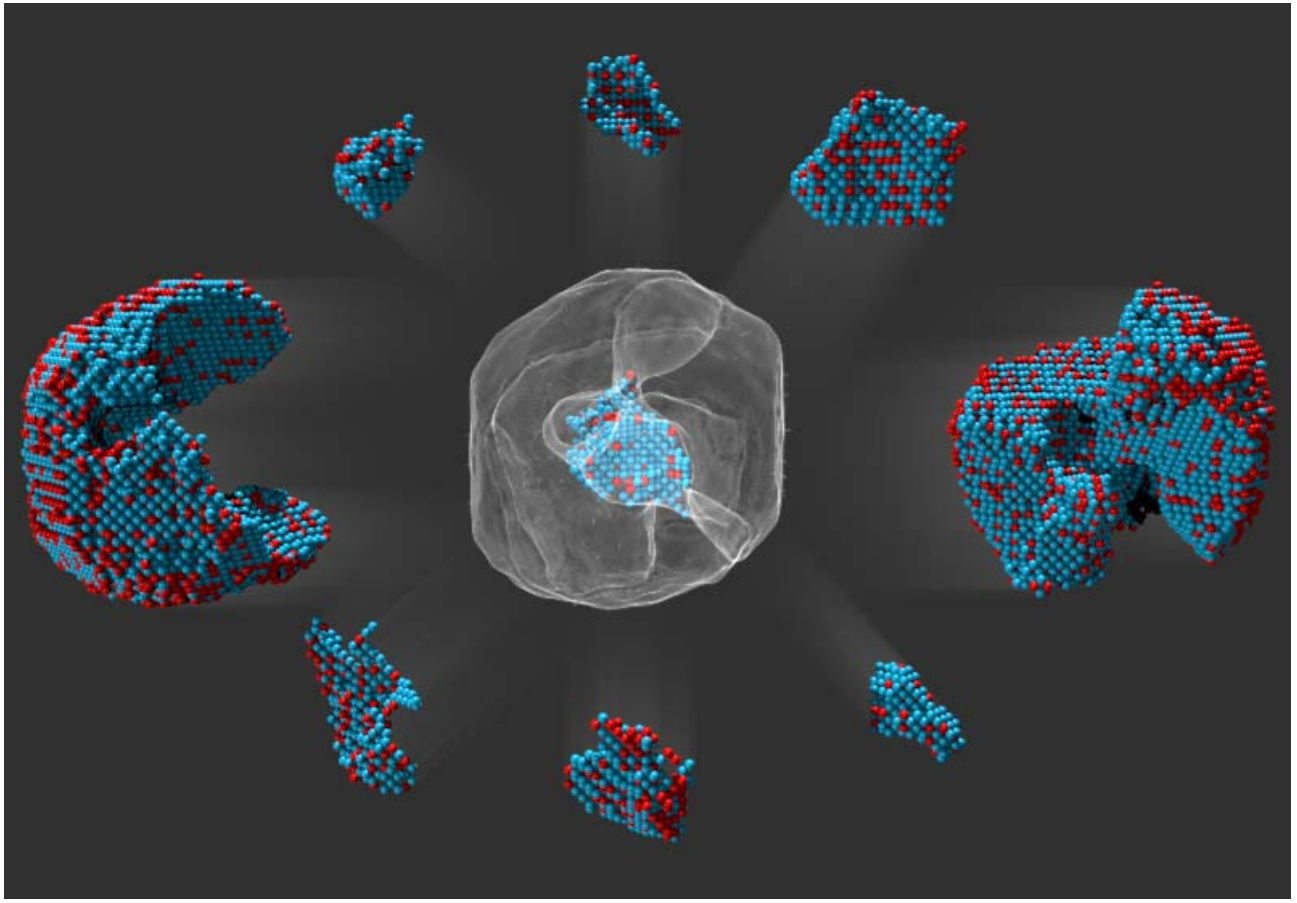
Nanoscale Science

Unprecedented Precision



Imaging every atom in a material in 3D, correlating structure with function, and guiding design and synthesis

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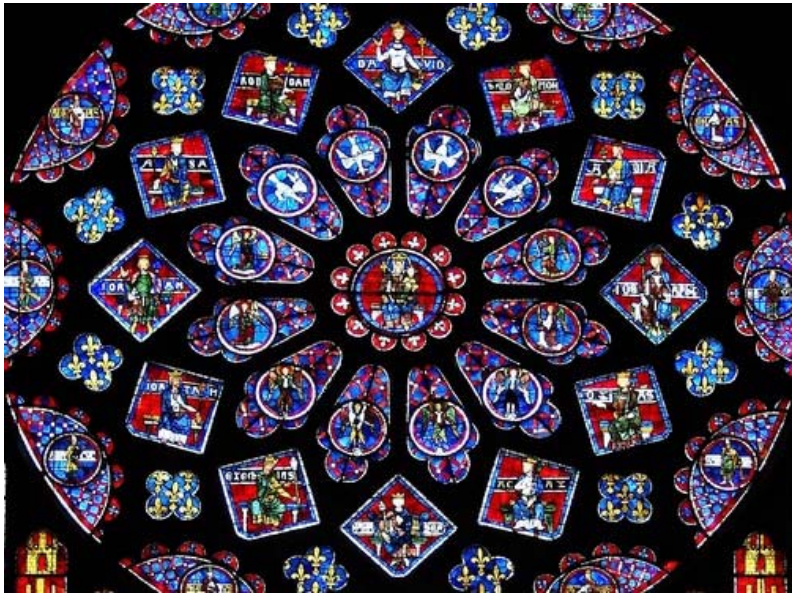
Nanoscale Science

Emerging Properties



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Science at the Nanoscale

Nearly Unlimited Possibilities

Longer lasting and more environmentally friendly batteries

Augmented reality

Upcyclable plastics

Brighter and more accurate displays

Organ transplants that last days instead of hours

Cheaper and more efficient solar cells

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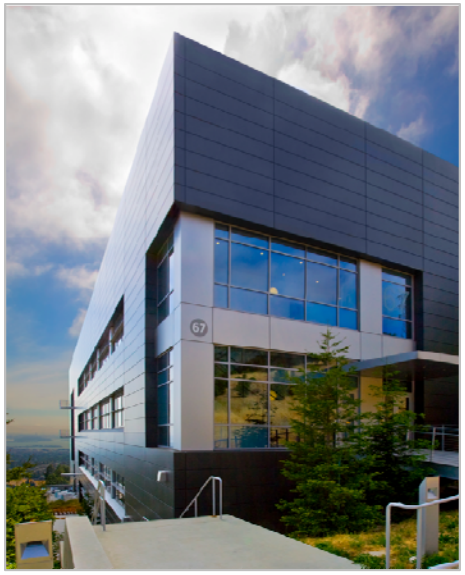

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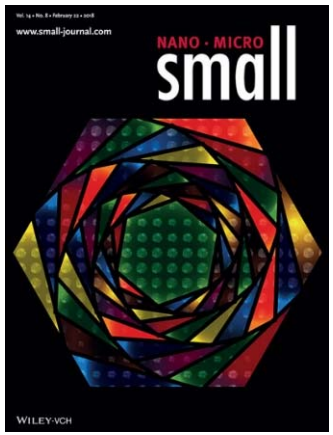

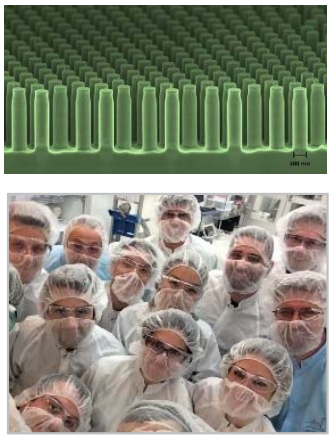

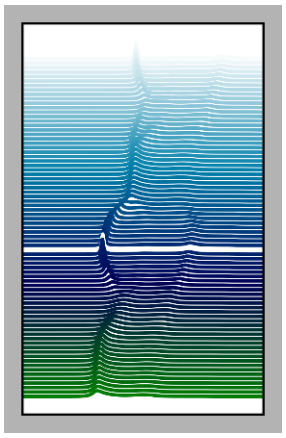

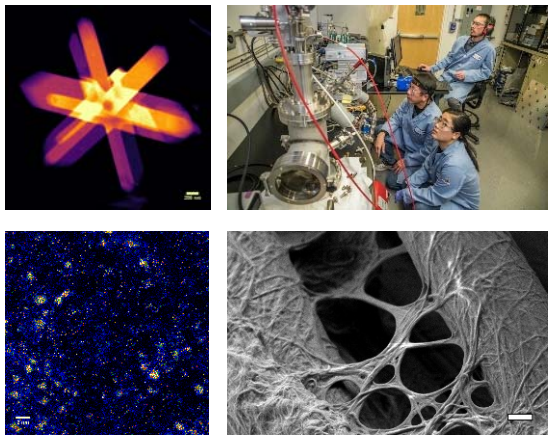

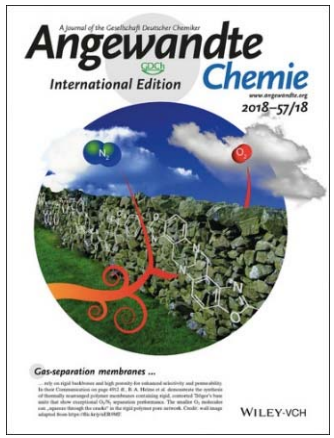

Matching the “how” with “who” and “what”

A simple tool for researchers (and good reminder for us)

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Lots of “hows”

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NEWS CENTER

Plastic Gets a Do-Over: Breakthrough Discovery Recycles Plastic From the Inside Out

Scientists from Berkeley Lab have made a next-generation plastic that can be recycled again and again into new materials of any color, shape, or form

News Release By Theresa Duque • **May 6, 2019**

2.2K | 916 | 3.1K

Foundry *in Focus*

News from the Molecular Foundry

MOLECULAR FOUNDRY

Volume 7 - Aug 2019

Note from the Director

Dear Molecular Foundry Community,

It is a pleasure to write to you as the recently appointed interim director of
Molecular Foundry. I am honored to be leading this world-leading user
y and to have the opportunity to advocate for such an impressive group
ividuals, across our scientific, technical and operational staff and our
national user community. The Molecular Foundry has been my
ssional home for over a decade and defined my scientific career in
positive ways. I am extremely grateful to Jeff Neaton for convincing
consider this alternative career path more than a decade ago, when
ed the Theory Facility. I also want to thank Jeff for his stewardship as
tor. His legacy of collaboration, creativity and integrity is something that I aim to live up to.

s good to see so many of you last week at the Annual User Meeting. I'd like to thank the
cular Foundry's User Executive Committee (UEC), and in particular the organizing committee
ncesca Toma, Gregory Su and Keiko Munechika) for putting together such a stimulating
da. I was particularly inspired by the quality and diversity of the research presented
ghout the two days, but was most impressed with the energy and engagement of the
munity, which will inevitably lead to new ideas and growing collaborations between staff and
s.

g those lines, we have some new faces at the Foundry that I'd like to introduce to you. Dr.
Ralston joined the Biological Nanostructures Facility as Interim Director earlier this summer

A New Detector – the 4D Camera – Reaches a New Frontier in Speed

5,559 views • Published on Apr 11, 2019 42 0 SHARE SAVE ...

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The “how” should be last

Who are we trying to communicate to?
Who are our stakeholders?

What do we want to tell them?
What messages will resonate with their interests?
“What boxes do we want to check?”

How to do we communicate these messages to these stakeholders most effectively?

The “how” should be last

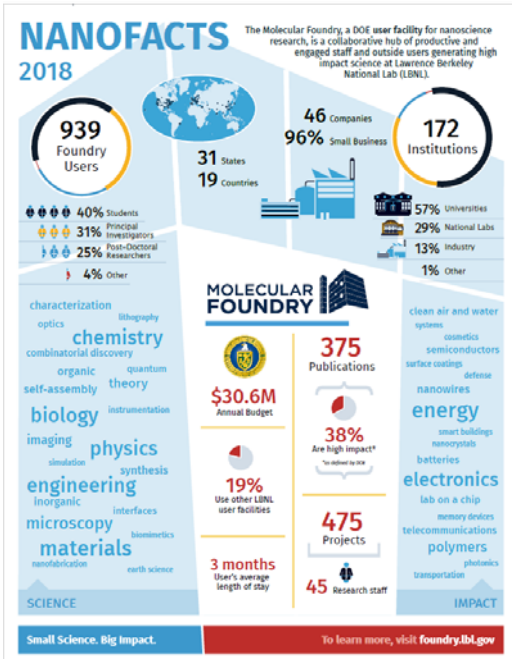
Who: Congress

- appropriators, authorizers, champions of science

What: remember us?

user facilities democratize science, have nat’l reach

national labs fuels competitiveness/economy



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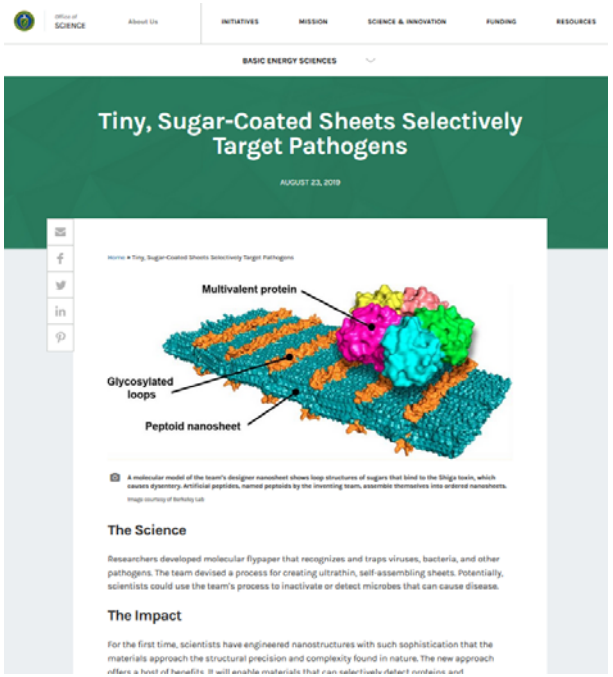
The “how” should be last

Who: DOE

- leadership, program managers

What: high impact
fulfilling our mission
unique and complimentary



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The “how” should be last

Who: Public

- tax payers, community members, students

What: the “wow” of science
real world applications
unique/necessary role of gov’t-funded research

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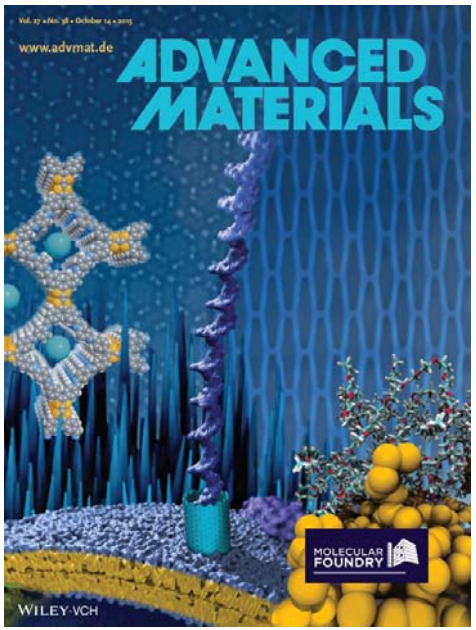
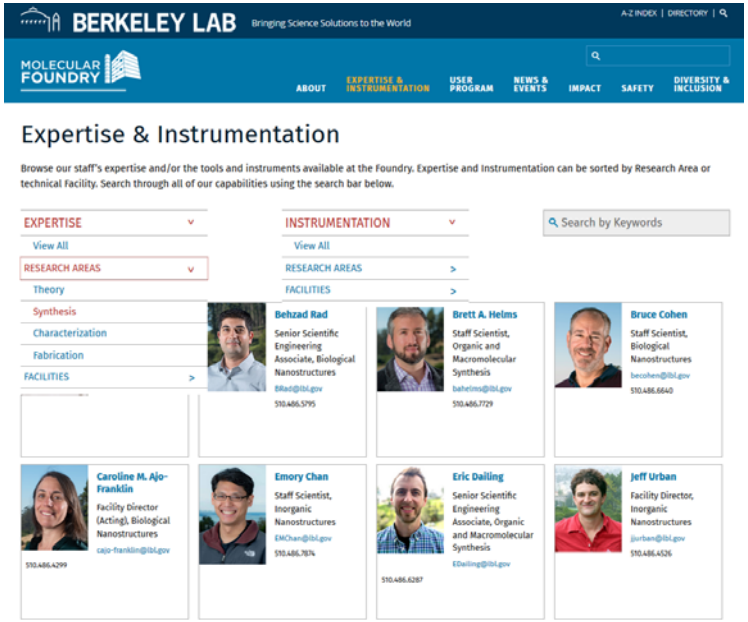
The “how” should be last

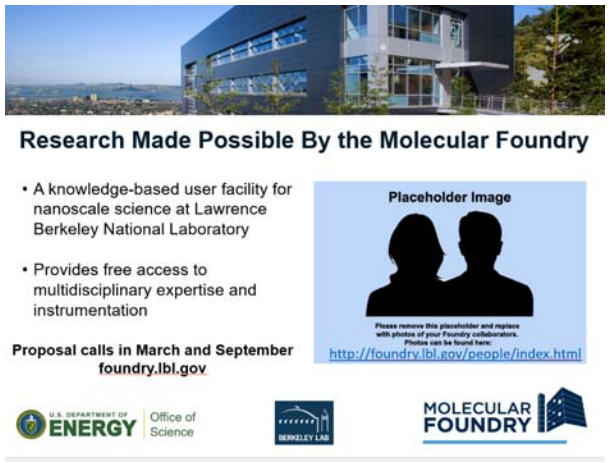
Who: Prospective Users/Researchers

- ➢ academia, national lab, industry

What: world-class expertise and equipment
collaborative partnerships
easy to apply and gain access







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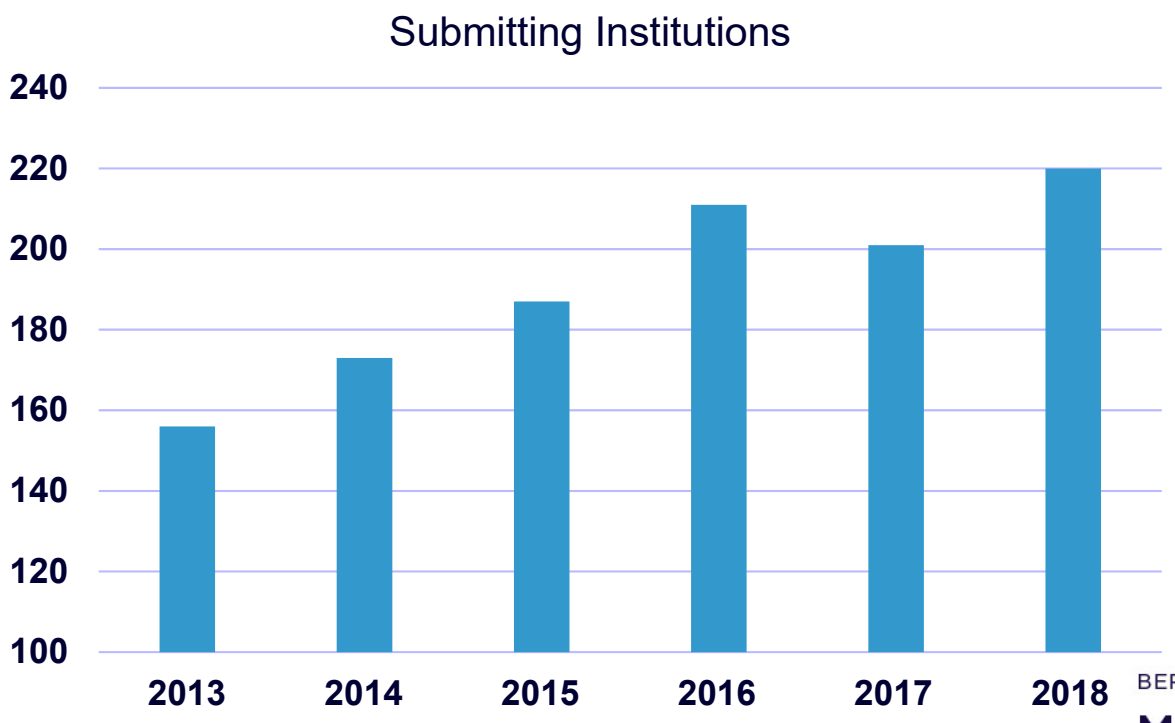
Growing Researcher Demand and Awareness

Proposals to Foundry	FY 2013-15	FY 2016-18
Number	1487	1975
Submitting States	41	46
Average Annual Institutions	172	211



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Questions?

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